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before the
U. S. Senate Committee on Commerce, Science and Transportation
Subcommittee on Oceans and Fisheries

Hearing on the Coastal Zone Management Act

May 6, 1999

Mr. Chairman, Members of the Subcommittee, thank you for the opportunity to testify concerning the reauthorization of the Coastal Zone Management Act. I am appearing here today with a lifetime experience as an oceanographer, formerly Chief Scientist of the National Oceanic and Atmospheric Administration; as a businesswoman, founder of Deep Ocean Engineering, Inc., Deep Ocean Exploration and Research, Inc., and member of various corporate boards; as Spokesperson for the U.S. during the Year of the Ocean as well as for the organization, Sea Web on ocean issues; as a member of the board for numerous research and conservation organizations; as an author of numerous scientific, technical and popular publications; as the National Geographic's Explorer in Residence and Leader of a five year program of exploration, research and education focussed on the National Marine Sanctuaries -- the National Geographic's Sustainable Seas Expeditions, as well as serving as the Center for Marine Conservation's -- Ambassador for the Ocean". But most importantly, perhaps, I am here as a private citizen concerned about the future of my country, aware as I am that whatever happens in the next century, the next millennium and beyond depends on critical decisions being made right now about the land, water, air, living and other natural resources most people have always tended to take pretty much for granted.

Astronauts are not complacent about these things, nor are those of us lucky enough to venture deep in the sea. For us, the matter of "life support" -- not taking it for granted -- soon comes into focus. Those who are lofted into space must take with them every drop of water, every breath of air, every bite of food, every bit of clothing, and think and plan ro the ultimate disposition of very scrap of paper, every bottle top, every cupful of wasted generated. The same is true to those who journey in small submersibles far beneath the surface of the ocean. When it is necessary to think about, provide for, and pack along even the most basic goods and services required to stay alive, one sees the world with new eyes and recognizes clearly that the hospitable environmental circumstances here on Earth are special, rare, precious -- vulnerable. It also is clear that water is the cornerstone of earth's life support system -- and the most of it is ocean.

If I have learned anything in six decades it is that there is no free lunch, yet people generally have a way of regarding natural resources as free for the taking. In my lifetime and yours, there has been unprecedented squandering of this nation's natural resources representing an immense loss to the core asset abase that has enabled us to come as far as we have with the power, strength, and leadership position that the United States now enjoys. When Lewis and Clark set out to explore

the American west two centuries ago, the country was naturally blessed with abundant forests, wetlands, and wildlife. The skies above, the waters overall were essentially pristine. There was an illusion then that in large measure persists, that natural resources are infinitely resilient, and if by chance - or by design -- parts of the natural endowment were destroyed -- species lost, fish and bird populations diminished, forest cut, marshes drained, rivers polluted -- nothing was subtracted from the GNP to account for lessening the nation's natural assets. Impacts on our life support system have largely been ignored.

We are now paying for the loss of wetlands, marshes, mangroves, forests barrier beaches, natural dunes and other systems with increasing costs of dealing somehow with the services these systems once provided -- excessive storm damage, benign recycling of wastes, natural filtration and cleansing of water, production of oxygen back to the atmosphere, natural absorption of carbon dioxide, stabilization of soil, and much more. Future generations will continue to pay, and pay and pay unless we can take measure now to reverse these costly trends.

The Coastal Zone Management Act has been doing just that. As a nation, if we are to continue to effectively deal with the growing human impacts on the coastal zone, it is critical that the CZMA retain the enforcement provisions for polluted runoff currently in the law, and fully integrate the Coastal Nonpoint Pollution Control Program into the reauthorized statute. Without enforceable measures to prompt states to create technology-based management measures to prevent polluted runoff, the health of the ocean -- and our own well being -- is in jeopardy.

Those inspired to halt contamination of our coastal waters and the sea beyond must start at the tops of mountains, the headwaters of rivers, the heartland of America -- the fields, farms backyards, lawns, streets, golf courses and ball fields - where excessive applications of biocides, fertilizers and other chemicals has yielded high concentrations of nitrates, phosphates, and other materials that eventually make their way through ground water, streams and rivers to the ocean -- laconically referred to by some as "the ultimate sewer."

Anyone who doubts the land-sea connections should peer over the shoulder of an astronaut, at least vicariously, to get the big picture -- not only about what flows from the land into the sea, but also, to understand how the sea affects the land, no matter how far from the shore we might live. Watching the T.V. weather station helps make the connection. The sea shapes planetary climate, weather, temperature, chemistry, and is home to most of life on earth.

Pollution of our coastal waters has yielded a legacy of degraded rivers and streams, beach closures, loss of valuable shellfish resources, and a so-called "Dead Zone" covering more than 6,000 square miles in the Gulf of Mexico. Polluted runoff has also promoted the toxic *Pfiesteria* outbreaks on the Mid-Atlantic Coast, made bathers sick on beaches in California, clogged important shipping channels in the Great Lakes, and given rise to dramatic problems in Florida Bay and the adjacent coral reefs in the Florida Keys.

Increased nitrates in coastal waters may be linked to spread of diseases such as cholera. These are costly consequences of not paying attention to the importance of taking care of the natural systems that, in effect, take care of us.

As the same time, in our time, there has been a dramatic reenactment of the wholesale consumption of wildlife in the 1800's and early part of this century, only now instead of buffalo, passenger pigeons, songbirds shorebirds, beaver, wolves and bears our attention for mass markets of wildlife has been directed toward life in the sea. The extremely costly collapse of cod pollack, haddock, capelin, flounder, swordfish, bluefin tuna and dozens of other commercially valuable species has come about for many reasons, not the least being in indifference to history. We might have learned from precedents set on the land, yet we continue to extract wild creatures from wild systems using highly destructive methods that undermine our nation's natural treasury.

No species can withstand the relentless high-tech predation now being imposed on hundreds of kinds of creatures that have developed to natural means of defense against our present means of finding, capturing, processing, and distributing them as commodities throughout the world. Lost in the process are not just potentially valuable sustained uses of marine life for food at more conservative levels, but also for all the other valuable services they may yield in terms of maintaining our "life support system". For example, shellfish in Chesapeake Bay at the turn of the century filtered and thereby cleansed the entire contents of the bay in a few days; now, with oysters reduced to about 2% of what they were in the early 1900's, and with greatly increased nutrient loads that stimulate plankton growth, it is estimated that it takes more than a year for a shellfish to filter the bay's volume.

The buzzword for addressing this problem today is "sustainable development." How can we, in fact, continue to use the natural resources that sustain us -- without using them up? The first step toward resolving what may seem to be a hopeless catch-22 is recognizing that problems exists. For many citizens of the United States, even those who live by the sea, there has been widespread complacency and a troubling sense of detachment about what is happening to the nation's coastal region. But that is changing as the links between the health of the ocean and our own well-being become increasingly obvious.

Last year was designated the Year of the Ocean, and 1997 was celebrated internationally as the Year of the Reef -- both drawing attention to the problems now facing coastal areas worldwide. A clear need was demonstrated to develop more responsible ocean policies than those that have given rise to present degradation of valuable resources. Since the Stratton Commission was formed over thirty years ago, the United States has not had a national, comprehensive ocean policy. Since that time, technological breakthroughs, transportation improvements and global pollution have made the ocean sem a lot smaller and proven that they are much more vulnerable than once was believed.

I am presently engaged in a five year program of exploration, research and education -- the Sustainable Seas Expeditions -- a public-private partnership involving the National Geographic Society and NOAA with funding from the Richard and Rhoda Goldman Fund in cooperation with various private and governmental institutions including NASA, the U.S. Navy, the EPA, the Monterey Bay Aquarium Research Institute, and the Mote Marine Laboratory. Hundreds of scientists and educators are involved as well as numerous student participants. Our focus is on the coastal zone. There are several objectives, including the strengthening of the nation's system

of young but promising National Marine Sanctuaries--an underwater counterpart of the National Park System. Twelve are now included and a new one is soon to be designated in the Great Lakes at Thunder Bay. The goal is to develop a stronger ethic of caring, an ocean ethic that will reinforce and extend the stewardship provisions of the CZMA. No doubt about it, the CZMA, if fully implemented, will help us to better care for the nation's vital coastal resources.

As policy makers, I urge you to back and to strengthen the CZMA for a long list of good reasons ranging from sound short term economic good sense to sound long term economic good sense to sound environmental sense, near term and long term. These are not only compatible reasons; they are inextricably linked reasons. Sound economy, sound environment. It does make sense. There are ethical considerations, too, of course. Protecting natural resources so your sons and daughters and their children, the descendants of all of us for all time will either thank us for our foresight because we took care of the assets and delivered them safely into the future, as Theodore Roosevelt implored us to do ... "enhanced, not impaired in value..." or, they will look upon us with disdain and despair for having squandered in our lifetime the distillation of four and a half billion years.

Reauthorization of the CZMA comes at an opportune time-- a time when the need is the greatest it has ever been. The federal government, along with its partners at the state, county and local government level, must make a concerted commitment to the nation's coastal and ocean resources. I respectfully recommend that the following provisions be included in the reauthorization of the CZMA:

1. $55 million each fiscal year through FY 2004 for 306 grants to states;
2. $30 million for 306a grants to states for polluted runoff programs in FY 2000,
3. A strong Coastal Nonpoint Pollution Control Program;
4. provisions to ensure that grants under the CZMA are environmentally protective, meaning they not be used for beach hardening projects, shoreline erosion structures or dredging projects that harm coastal ecosystems.

By reauthorizing the CZMA to include the above provisions, this subcommittee and the United States Senate will have lived up to its responsibility to act on behalf of the public good and will fulfill the objectives of the Coastal Zone Management Act.

In addition to increased funding as outlined above, it is crucial that any updated CZMA include a Coastal Nonpoint Pollution Control Program that can help states prevent the major sources of pollution threatening water quality. The federal polluted runoff program, administered jointly by NOAA and the EPA, must maintain the requirement that state coastal programs contain enforceable policies and mechanism to implement nonpoint pollution controls. Without enforceable mechanisms, there is no guarantee that this federal program will be effective. By requiring that funds be withheld under the CZMA and CWA if adequate coastal nonpoint programs are not prepared, coastal states are compelled to develop workable plans to prevent polluted runoff. Once their plans are approved by NOAA, they will then be eligible for additional grant money for implementation. This mild form of encouragement is warranted given the urgency of the problem and the high cost of inaction.

This is an exceptional opportunity for Congress to pass a bipartisan bill aimed at vital environmental and economic issues. I urge you to take advantage of this momentous point in history, this time when as never before and perhaps as never again we can move forward to an era of greater stewardship, of protecting and restoring health to the nation's natural coastal and ocean assets. In the short term, you will be acting on behalf of those now living--including you and me--but at the same time, you will be crafting an enduring legacy.

Mr. Chairman, Members of the Committee, thank you for your work on behalf of coastal and ocean resources and for the opportunity to testify before you today. I shall be pleased to work with you and will help any way that I can.